

GEOCHEMICAL CHARACTERISTICS OF FRESH WATER LAKES IN SCHIRMACHER OASIS, EAST ANTARCTICA

D Jayapaul, A Dharwadkar, O Swaroop, M.P. Gaur

Geological Survey of India, Faridabad, HARYANA, India

The concentrations of some major ions and trace metals, and parameters like pH, TDS and EC have been determined in the present study to understand the geochemistry of the lakes of Schirmacher Oasis. Lakes near the continental ice sheet show higher values of TDS and electrical conductivity. The pH values range from 6.15 to 7.55 suggesting near neutral condition of the lakes during the period of observation. Steady state condition between inflowing and outflowing water may be a reason for very low concentration of metals. The Enrichment Factors (EF_M) of Na, K, Mg, Ca and SO_4 are compared with those for McMurdo and Syowa Lakes. Relative abundances of Na, K, Mg, Ca and SO_4 decrease with increasing concentration of dissolved salts possibly due to the fractional freezing and/or evaporation. The total salt content reveals a polymodal distribution.